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ABSTRACT

A study analyzed the employment pattern of agricultural education graduates of the class of 1987, using part of the annual "National Study of the Supply and Demand for Teachers of Vocational Agriculture in the United States." All institutions of higher education in the United States that certified teachers of agriculture made up the study population, and 100 percent of them responded to a mailed survey. The survey showed that 921 persons received agricultural education degrees or were otherwise certified to teach. Of that total, 396 (42 percent) accepted teaching positions in agriculture and another 39 are teaching other subjects. Of the 105 students who graduated with degrees in agricultural extension or education/extension, only 29 took extension positions. The study concluded that the nationwide surplus of qualified agriculture teachers continued for school year 1986-87. The study recommended that national supply and demand research should be continued in agricultural education as a valuable tool for projecting the need for agricultural teachers. Further research also was recommended into the background and characteristics of agriculture students and their career goals to provide planning information. (KC)

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Employment Patterns for Agricultural Education Graduates in 1987: A National Study

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There has been a national trend during the 1980's towards increasing academic requirements for high school graduation (Frantz, Strickland, & Elson, 1987). Typically, this trend has been interpreted to mean more math, science, foreign language, and English, and less of everything else for high school students. That situation, coupled with an overall nationwide decline in the total number of high school students during the first half of this decade, produced a general perception within the profession that secondary level vocational education in general, with agricultural education no exception, could expect enrollment problems in many states. The additional problem of a very troubled national agricultural economy helped to produce a decline in agricultural teacher education enrollments at the 90-plus institutions offering professional agriculture teacher preparation programs (Camp, 1988).

On the other hand, public criticism of education in general has produced an increased public concern and commitment to improve the educational system in this country (Holmes, 1986), manifestations of which appear to imply improved status for the profession of teaching and increased salaries for teachers in most states (Carnegie, 1986). These improvements, coupled with the perception by the American public that a serious teacher shortage may be imminent, appear to be producing an upswing in the number of undergraduates entering teacher education programs. This situation seems to hold whether the impending teacher shortage is real or is indeed only imaginary, as Hecker (1986) believes. Based on these facts, one would expect an upward pressure on agricultural teacher education enrollments and perhaps an increasing placement rate in teaching.

Many forces have affected the supply and demand for teachers in all vocational service areas nationwide during the decades since the Vocational Education Act of 1963 began a marked expansion in the size of the program. For most of those years, teacher shortages were the norm in agricultural education. From the time the first national data on the supply and demand for teachers of vocational agriculture in the United States were collected in 1965 until 1985, there was a continuing shortfall in the number of qualified teachers seeking employment in teaching vocational agriculture (Craig, 1985). Yet the very existence of a shortage of vocational agriculture teachers was often a source of debate, even in years when substantial numbers of departments could not open because of a lack of qualified teachers seeking employment (Parmley, Bowen, & Warmbrod, 1979; Craig, 1985). In a substantive reversal of long trends, for

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the period from 1985 through 1987, there was a slight surplus of agriculture teachers (Camp, 1988).

Background: The "National Study"

As a result of what was perceived as a nationwide shortage of teachers of vocational agriculture, in 1965 the Agricultural Education Division of the American Vocational Association (AVA) authorized Dr. Ralph Wooden, of The Ohio State University to initiate a National Study of the Supply and Demand for Teachers of Vocational Agriculture in the United States (D. G. Craig, personal communication, July, 1985). Several years thereafter, Dr. David G. Craig of the University of Tennessee, Knoxville, assumed responsibility for the study. Dr. Craig conducted the study until 1985, when that responsibility was assumed by Dr. William G. Camp of Virginia Polytechnic Institute and State University. As of the date of this writing, data are being collected for the twenty-fourth edition of the Supply and Demand study, which will be published and disseminated to the profession during the spring of 1989.

The broad purpose of the Supply and Demand study has remained constant for over two decades: to provide to members of the agricultural education community an ongoing source of longitudinal data regarding the supply and demand for teachers of agricultural education in the United States, at both secondary and postsecondary levels. The study reports data regarding the numbers and placements of graduates of university teacher education programs in agricultural education; numbers and sources of beginning teachers of agricultural education; and numbers of teachers of agriculture, at both secondary and postsecondary levels; numbers, and types of programs of agricultural education, at both levels; and types of schools at which the programs are offered.

Importance of this Study

Since 1985, both the actual number of graduates and the percent of newly qualified teachers of agriculture entering the profession have declined markedly. It is important that teachers, state supervisory staff, and teacher educators in agricultural education know the status of the supply and placement patterns for new graduates as they counsel potential agricultural education undergraduates and as they make long range plans for program directions.

Purpose of this Paper

The research being reported here is only one aspect of the twenty-third edition of that continuing study. The specific purpose of this paper is to report the employment pattern for agricultural education graduates, for the graduating class of 1986-87.

Research Methods and Procedures

Instrumentation

The instruments used in the research have been developed and revised over the twenty-three years of the study. Revalidation panels are asked periodically to review them and make recommendations. The most recent formal revalidation panel was used in 1986. Every year, with the study annual report, a request for suggestions from readers is included. In the final analysis, oversight of the study, and by logical extension, the validity of the instruments used, is the responsibility of the Professional Personnel Recruitment Committee of the Agricultural Education Division of the American Vocational Association. The survey remains very stable from year to year because of the need for continuity in the data; however, as the conditions change in agricultural education, it must be revised to reflect those changes.

Instrument reliability is less easily examined. The nature of the instruments make traditional reliability coefficients useless. One must assume that the respondents, as heads of departments of agricultural teacher education, because of the general acceptance of the importance of the study, will respond carefully -- i.e. reliably. To improve the consistency of reporting, each year a copy of the previous year's survey response is included with the current instrument.

Data Sources

All institutions of higher education in the United States with specific programs for the training and certification of teachers of agriculture made up the study population. The list was compiled from four sources: Rogers (1985), Henry (1986), D. G. Craig (personal communication, July, 1985), and the results of the 1985 Supply and Demand Study (Camp, 1986).

In September, 1986, a "Survey of the Supply of Teachers of Vocational Agriculture in the United States" was mailed to the head teacher educators at those institutions along with a cover letter, reminding them of the nature and purpose of the study. About a month later a follow-up letter and second copy of the instrument were mailed to non-respondents. In November, a second follow-up letter and a third copy of the instrument were mailed to continuing non-respondents. In December, a third follow-up letter and a fourth copy of the instrument were mailed. In January a fourth follow-up, consisting of a hand-written letter and still another copy of the instrument were mailed. In December, at the AVA convention, personal contacts were made with many of the non-respondents. For those non-respondents not at AVA, contacts were made with other agricultural educators in their states, asking for assistance in encouraging them to respond to the survey. In February and March, telephone calls were made to the remaining non-respondents, followed by still another copy of the instrument. Finally, one institution's response was taken by telephone interview in April. As a result, a 100% return rate was achieved among teacher education institutions.

Findings and Conclusions

There were 4243 undergraduates enrolled in all options in agricultural education in the United States during school year 1986-87. Of the 1378 who completed degree requirements during the year, 1181 majored in teaching, 67 were agricultural extension students, 38 combined teaching and extension, and 92 were in other specialties. See Table 1.

Analysis by region, shows that the Central Region had the largest enrollment of undergraduates and produced the largest number of graduates in all options in agricultural education. The Eastern Region schools had the smallest numbers of students and graduates in all option areas except extension, with the Western Region having the smallest number in that category. See Table 1.

Table 1
Undergraduate Agricultural Education Enrollment in the United States, by AATEA Region, School Year 1986-87 [a]

	U.S.	East-ern	Cent-ral	South-ern	West-ern
Number enrolled in all options	4243	212	2112	1184	735
Number of Graduates Reported, by Option:					
Teaching only	1181	56	692	285	148
Extension only	67	5	42	17	3
Teaching/Extension Combined	38	0	29	9	0
Other options	92	2	47	30	13
Total Graduates	1378	63	810	341	164

Notes:
a. Source: Head teacher educators in agricultural education
b. Sum of subgroups exceeds total.

Table 2 shows that a total of 921 persons received degrees, either 4-year or 5-year, or were otherwise certified to teach through agricultural teacher education programs in the United States during school year 1987. Of that total, 396 (42.3%) accepted teaching positions in agriculture and another 39 are teaching other subjects. The second largest placement rate was in agribusiness, at 207 (22.3%) followed by graduate school at 114 (12.2%), see table 2.

A total of 105 students graduated with BS/BA degrees in either agricultural extension or combined education/extension (Table 1). Only 29 agricultural education program completers (BS/BA, 5-year, masters, certification only, etc.) took extension positions. Of those, only nine were extension-only or combined education/extension graduates. Thus, agricultural extension education programs continue to produce graduates at an increasing rate, but the placement rate in extension positions remains abysmally low.

The placement rate for newly qualified agriculture teachers remains below the long-term average of 50-55% as reported by Craig (1985). That fact, along with the number of graduates who probably wanted to teach, in the opinion of the head teacher educators, indicate that the nationwide surplus of qualified agriculture teachers continued for school year 1986-1987.

Table 2
Placement of Newly All Persons Qualified to Teach Agricultur in the United States, by AATEA Region, School Year 1986-87, as of September 1, 1987 a, b

	U.S.	East-ern	Cent-ral	South-ern	West-ern	
Total Qualified to Teach	921	62	424	256	179	c
Teaching Agriculture In-state	343	18	153	98	74	
Teaching Agriculture Out-of-state	53	7	17	15	14	
Placement Rate in Teaching Agric.	43%	40%	40%	44%	49%	
Teaching Other Subjects	39	6	16	7	10	
Agribusiness	207	10	93	72	32	
Extension Service	29	6	16	6	1	
Farming	68	3	34	21	10	
Graduate School	114	8	66	28	12	
Military	5	0	3	2	0	
Other Work	101	6	49	28	18	
Unemployed	60	2	21	27	10	

Notes:
a. Source: Head teacher educators in agricultural education
b. Number qualified does not equal number of BS/BA graduates (See Table 1). In a number of states, BS/BS graduation does not satisfy certification requirements. This figure includes 5th year, masters, certification only, etc.
c. Totals by type of occupation exceed total qualified because some graduates fit two categories -- ex. both teaching and farming.

Implications and Recommendations

The Supply and Demand Study should be continued in agricultural education. The information it provides may need to change just as the need it serves may have already changed. After all, it was originally a result of a national perception that there was a teacher shortage in vocational agriculture -- a shortage that has not existed for several years. Nevertheless, it remains a valuable tool for recruiting and counseling prospective teachers. Beyond that, the current, apparent oversupply of teachers of vocational agriculture may well be short-lived.

Research should be undertaken to determine the backgrounds and characteristics of students in agricultural teacher education programs. What kinds of students are in our undergraduate programs?

What are their career goals? What are their backgrounds in terms of occupational experience and vocational agriculture in high school? How do those backgrounds and career goals relate to the lowering of the placement rate in teaching positions?

Research should be undertaken to determine the proportion of teacher education graduates actually seeking teaching jobs or who would accept teaching positions if appropriate offers were made. The extent to which market factors or job scarcity are dictating the low placement rate in teaching should be determined.

Studies in the other vocational service areas, such as the one described here could provide valuable policy planning information. They could provide national, regional, state, and institutional counseling and recruitment information for teachers, administrators, teacher educators, and prospective teacher education students.

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